

What we claim is:

- 1) A composition for treatment of a bacterial infection of an upper respiratory tract, comprising:
  - an effective amount of at least one lytic enzyme produced by a bacteria being infected with
  - 5 a bacteriophage specific for said bacteria; and
  - a carrier for delivering said at least one lytic enzyme to a mouth, throat, or nasal passage.
- 10 2) The composition according to claim 1, wherein said bacteria being treated is selected from the group consisting of *Streptococcus pneumoniae* and *Hemophilus influenza*.
- 3) The composition according to claim 2, wherein said bacteria being treated is *Streptococcus pneumoniae*.
- 15 4) The composition according to claim 2, wherein said bacteria being treated is *Hemophilus influenza*.
- 5) The composition according to claim 1, wherein said carrier is selected from the group consisting of a candy, chewing gum, lozenge, troche, tablet, a powder, an aerosol, a liquid and a liquid spray.
- 20 6) The composition according to claim 1, wherein said composition further comprises a buffer that maintains pH of the composition at a range between about 4.0 and about 9.0.

7) The composition according to claim 6, wherein the buffer maintains the pH of the composition at the range between 5.5 and 7.5.

8) The composition according to claim 6, wherein said buffer comprises a reducing reagent.

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9) The composition according to claim 8, wherein said reducing reagent is dithiothreitol.

10) The composition according to claim 6, wherein said buffer comprises a metal chelating reagent.

10 11) The composition according to claim 10, wherein said metal chelating reagent is ethylenediaminetetraacetic disodium salt.

12) The composition according to claim 6, wherein said buffer is a citrate-phosphate buffer.

15 13) The composition according to claim 1, further comprising a bactericidal or bacteriostatic agent as a preservative.

14) The composition according to claim 1, wherein said lytic enzyme is lyophilized.

20 15). The composition according claim 1, wherein said at least one lytic enzyme is present in a concentration of about 100 to about 100,000 active enzyme units per milliliter of fluid in the wet environment of the nasal or oral passages.

- 16) The composition according to claim 15, wherein said at least one lytic enzyme is present in a concentration of about 100 to about 10,000 active enzyme units per milliliter of fluid in the wet environment of the nasal or oral passages.
- 5      17) The composition according to claim 1, wherein said composition is for a prophylactic treatment of the bacterial infection of the upper respiratory tract.
- 18) The composition according to claim 1, wherein said composition is for a therapeutic treatment of the bacterial infection of the upper respiratory tract.